

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing

(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.  
PCT/JP2004/006349

International filing date (day/month/year)  
30.04.2004

Priority date (day/month/year)  
02.05.2003

International Patent Classification (IPC) or both national classification and IPC  
G03G9/093, G03G9/087, C09D167/04, C12P7/62, C12N11/00

Applicant  
CANON KABUSHIKI KAISHA

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☒ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☒ in written format  
☒ in computer readable form
  - c. time of filing/furnishing:  
☒ contained in the international application as filed.  
☒ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).  
☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	10,13-23
	No: Claims	1-9,11-12
Inventive step (IS)	Yes: Claims	
	No: Claims	1-23
Industrial applicability (IA)	Yes: Claims	1-23
	No: Claims	

2. Citations and explanations

see separate sheet

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

see separate sheet

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**Cf V:**

Reference is made to the following documents:

- D1: EP-A-1 275 728 (CANON KK) 15 January 2003 (2003-01-15)
- D2: EP-A-1 254 930 (CANON KK) 6 November 2002 (2002-11-06)
- D3: EP-A-1 253 160 (CANON KK) 30 October 2002 (2002-10-30)
- D4: EP-A-1 262 229 (CANON KK) 4 December 2002 (2002-12-04)
- D5: DE 30 16 766 A (FUJI PHOTO FILM CO LTD) 13 November 1980 (1980-11-13)
- D6: WO 01/94697 A (SATKOWSKI MICHAEL MATTHEW ; NODA ISAO (US); PROCTER & GAMBLE (US)) 13 December 2001 (2001-12-13)
- D7: US-A-6 096 810 (D HAENE POL ET AL) 1 August 2000 (2000-08-01)
- D8: WO 02/16627 A (METABOLIX INC ; TEPHA INC (US)) 28 February 2002 (2002-02-28)
- D9: US-A-5 614 576 (RUTHERFORD DENISE R ET AL) 25 March 1997 (1997-03-25)
- D10: EP-A-1 255 166 (CANON KK) 6 November 2002 (2002-11-06)
- D11: EP-A-1 253 162 (CANON KK) 30 October 2002 (2002-10-30)

**Article 33(2) PCT:**

**Claim 1:**

**Claim 1** discloses a structure comprising a base material which is coated at least partly by a PHA.

**Document D9** discloses the same combination of technical features as disclosed in **claim 1** (column 4; lines 6 to 18, column 5, lines 6 to 30, lines 64 to 66, column 6, line 7; claims and examples).

Thus, the subject matter of **claim 1** does not meet the requirements of Article 33(2) PCT.

The same considerations apply to the subject matter of dependant **claims 2 to 9 and 11 to 12**, which contain merely conventional embodiments known from the

prior art.

**Claim 10:**

None of the documents discloses the same combination of features as disclosed in **claim 10**.

Thus, the subject matter of **claim 10** meets the requirements of Article 33(2) PCT.

The same remark applies also to **claims 13, 14, 15, 16 and 23**.

**Article 33(3) PCT:**

**Claims 1 to 9, 11 and 12:**

**The subject matter of claims 1 to 9, 11 and 12** does not meet the requirements of Article 33(3) PCT.

**Claim 10:**

**Document D3** is considered as representing the closest prior art. The difference between **D3** and **claim 1** is that, in **D3**, the substituents on phenyl type structure are different from those disclosed in **claim 1**. Since there is no comparative example in the present application according to **D3**, the objective technical problem is to provide further PHA for coating particles such as toner.

Even if there are no indications to use specific PHA for coating toner particles in **D10 to D11**, the applicant has not showed that such differences of substituents on phenyl structure lead to a technical effect.

Therefore, the subject matter of **claim 10** does not meet the requirements of Article 33(3) PCT.

The same considerations apply to the subject matter of **independant claims 14, 15, 16 and 23** as well as to the subject matter of dependant **claims 13 and 17 to 22** which contain merely conventional embodiments known from the prior art.

**Article 33(4) PCT:**

The subject matter of **all claims** is capable of industrial applicability.

**Cf VII:**

In pages 112 and 116, example 21 is mentioned. However such example does not exist.

The calculated composition indicated in pages 107-108 is false (phenylsulfonylvaleric acid cited twice).

In pages 109 and 116, the numbering of the tables is false.

**Cf VIII:**

**Article 6 PCT:**

**Claims 1 and 16** are not clear since it is not clear if the monomer unit of formula [1] should be present in the PHA.

**Claims 4 to 7 and 9** are not supported by the description.

**Claim 12** is not supported by the description since the shape of base material (structure) is not indicated (page 31; lines 15 to 17).

**Claim 16** is not supported by the description since in the description (page 25; line 3), the polyhydroxyalkanoate synthetase is a medium or chain length polyhydroxyalkanoate synthetase.